



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Pablo Tamayo, Jill Mesirov, Eric S. Lander and Todd R. Golub

Application No.: 09/525,142 Group Art Unit: 1631

Filed: March 14, 2000 Examiner: S. Zhou

For: METHODS AND APPARATUS FOR ANALYZING GENE
EXPRESSION DATA

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REPLY TO RESTRICTION REQUIREMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Responsive to the Restriction Requirement dated February 8, 2001, the claims of Group I (Claims 1-18) drawn to methods for clustering or grouping a plurality of datapoints are elected for prosecution. Applicant reserves the right to file a continuing application or take such other appropriate action as deemed necessary to protect the non-elected inventions. Applicant does not hereby abandon or waive any rights in the non-elected inventions.

An extension of time to respond to the Restriction Requirement is respectfully requested. A Petition for an Extension of Time and the appropriate fee are being filed concurrently.

The requirement is being traversed for the reasons set forth in detail below.

Traversal of Restriction Requirement:

Applicant respectfully requests that the Examiner combine the claims of Group I (Claims 1-18, drawn to methods for clustering or grouping a plurality of datapoints) with the claims of Groups III (Claims 35-51, drawn to methods of assessing or characterizing gene expression patterns) and IV (Claims IV, methods of determining relatedness of expression patterns of genes), all belonging to Class 702.

Restriction is only legally proper when two or more independent and distinct inventions are claimed in one application. 35 U.S.C. § 121.

Criteria 1: The inventions are not independent:

The term “independent” means that there is no disclosed relationship between the two or more subjects disclosed, that is, they are unconnected in design, operation, or effect. MPEP §802.01.

Claims 35-57, the claims of Groups III and IV, are related to Claims 1-18, the claims of Group I, because they share several of the same steps. Steps a, b and c of Claim 1 (Group I), Claim 35 (Group III) and Claim 52, (Group IV) are the identical. They all use a self organizing map to cluster the datapoints. Claims 35 and 52 simply have an additional step of assessing expression patterns or determining the relatedness of the expression patterns. The Examiner has even assigned the Groups to the same class, which is further evidence that they are related. These sets of claims are closely related because they all involve the clustering of gene expression values using a self organizing map, and should be combined into a single group and examined together. Hence, Applicant respectfully requests combination of Claims 35-57 with the claims of Group I.

Criteria 2: The inventions are not distinct:

The term “distinct” refers to two or more subjects as disclosed which are related, for example, as a combination and part (subcombination)... MPEP §802.01. The claims of Group I are a subcombination of Claims 35-57 of Groups III and IV, the combination. A restriction between a combination and a subcombination is proper only when *both* of the following are true: a) the combination does not require the particulars of the subcombination as claimed for patentability (e.g., the combination and subcombination have similar scope), AND b) the subcombination can be shown to have a separate utility. MPEP 806.05 (c) requires that a two-way distinctness be satisfied.

The claims of Group I, the subcombination, are drawn to methods for clustering gene expression datapoints, by receiving the gene expression values, clustering the datapoints using a self organizing map, and providing an output. The claims of Groups III and IV “require the particulars of the subcombination” because these claims use the very same steps as those set forth in Claim 1 of Group I (see Steps a, b, and c of Claims 1, 35, and 52). In addition to these steps, the claims of Groups III and IV also include the step of analyzing the output to determine the similarities or differences between the expression patterns of the genes (see Step d of Claims 35 and 52). Methods of clustering gene expression datapoints, assessing gene expression or determining the relatedness of gene expression patterns all involve clustering the datapoints using self organizing map methodology. Even though the combination may have separate utility, a restriction between these Groups is improper because the combination requires the particulars of the subcombination. Hence, Applicant respectfully requests combination of the claims of Groups III and IV with those of elected Group I.

A serious burden is not placed on the Examiner:

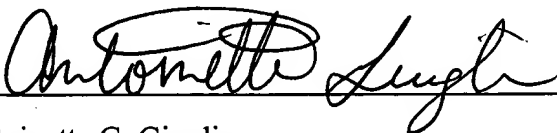
Combining Claims 35-57 with those of Group I would not place a serious burden on the Examiner. A search strategy for the Claims of Group I that seeks out art references related to clustering gene expression datapoints using a self organizing map will undoubtedly find references that relate to a methods of assessing gene expression patterns and the relatedness of gene expression patterns that use a self organizing map. Also, the Examiner has assigned all these groups of invention to the same class, further simplifying the search. As a result, the Examiner would not be placed under an undue burden if the above-mentioned claims were combined. Hence, Applicant respectfully requests reconsideration of the restriction requirement.

GATT:

Applicant also points out that the instant application was filed after the implementation date of the General Agreement on Tarriffs and Trade (GATT). Therefore, if the present Restriction Requirement is maintained and four Divisional Applications are filed to prosecute claims to non-elected inventions, then loss of patent term for at least some aspects of the invention will likely result. Such loss of valuable patent term would prove seriously detrimental to Applicant.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

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